II. REMARKS

Claim Amendments

Entry of the present amendments and reconsideration of this Application is respectfully requested. Claims 37, 39 to 40, 52, 55 to 59, 63 to 65, 67 to 68 and 79 are canceled. Applicants expressly reserve the right to prosecute these claims, or claims based on the same subject matter, in other applications, such as continuation applications. Claims 37 to 39, 55 to 59, and 63 to 65 are canceled in order to expedite issuance of the present case. Claims 31 and 70 are amended herein. The amendments of claims 31 and 70 are fully supported by the specification and claims as filed and do not introduced new matter. Entry of the amendments is respectfully requested.

Support for the amendments to claim 31can be found in the Figures, Figures 3, 4, and 5A-5C, which exemplify the labeling of an antibody array with a fluorescent reagent. Further, support can also be found on page 27, line 12, to page 28, line 5, of the specification as filed which define the term "detectably labeled," and in the original claims 14,15 and 24.

Upon entry of the present amendment, claims 31 to 36, 40, 51, 54, 60 to 62, 66, 69 to 76, and 80 to 83 are pending.

Regarding Information Disclosure Statement

An Information Disclosure Statement accompanies this response.

Claim Rejections under 35 USC § 112

Claims 76 and 79 are rejected for failing to comply with the written description requirement of 35 USC §112, first paragraph, for containing subject matter that was allegedly not described in the specification, at the time the application was filed, in such a way as to convey to a skilled artisan that the inventors had possession of the claimed invention. The Office Action reasserts that support for the embodiments of these claims is allegedly not supported by the disclosure. In Response to Applicants prior arguments, the Office Action asserts that these arguments were not persuasive because allegedly “the different elements [of a microarray] were never taught to be different antibodies.” The rejection is respectfully

traversed.

The present specification in numerous sections clarifies that elements of microarrays of the invention are different antibodies. For example, on page 4, lines 14-24, the specification clarifies that methods of the invention include "contacting *an array of characterized or uncharacterized antibodies* on a solid surface with one or more proteins and identifying the antibodies to which said protein(s) binds…") (emphasis added). On page 5, line20 to page 6, line 24 the specification clarifies that "[t]his method utilizes microarray technology to create ordered matrices of large numbers of uncharacterized *antibodies* which can then be contacted with antigen" (emphasis added). On page 14, line 22 to page 15, line 22 the specification discloses that "[i]n the present invention, each spot can contain one or more than one distinct antibody." On page 16, lines 19-23, the specification clarifies that "arrays used to identify antigen-specific antibodies are contacted with a solution containing one or more known antigens in order to identify *antibodies in the array* with binding specificity for the antigen" (emphasis added). Finally, Examples II - VII provide illustrative examples of arrays wherein the elements of the arrays are antibodies. Accordingly, Applicants assert that claims 76 and 79 comply with the written description requirement, and therefore respectfully request that the rejection under 35 USC §112, first paragraph, be removed.

Claim Rejections under 35 USC § 102(b)

Claims 70-73 and 80 are rejected under 35 U.S.C. §102(b) as allegedly being anticipated by Shalon et al. (WO 95/35505). It is alleged that Shalon et al. teach microarrays with immobilized reagents that include antibodies and antibody fragments that are dispensed in spatially addressable positions, wherein the source of the of the antibodies is known, and the array is treated to reduce non specific binding. This rejection is respectfully traversed.

Anticipation requires the disclosure in a single prior art reference of each element of the claim under consideration. In re Spada, 15 USPQ2d 1655 (Fed. Cir, 1990), In re Bond, 15 USPQ 1566 (Fed. Cir. 1990), Soundscriber Corp. v. U.S., 360 F.2d 954, 148 USPQ 298, 301, adopted 149 USPQ 640 (Ct. Cl.) 1966. See, also, Richardson v. Suzuki Motor Co., 868 F.2d 1226, 1236, 9 USPQ2d 1913,1920 (Fed. Cir.), cert. denied, 110 S.Ct. 154 (1989). "[A]ll limitations in the claims must be found in the reference, since the claims measure the invention." In re Lang, 644 F.2d 856, 862, 209 USPQ 288, 293 (CCPA 1981). Moreover it is incumbent on Examiner to identify wherein each and every facet of the claimed invention is

disclosed in the reference. Lindemann Maschinen-fabrik Gmbh v. American Hoist and Derrick Co., 730 F.2d 1452, 221 USPQ 481 (Fed. Cir. 1984).

Claim 70, as currently amended, is directed to a microarray comprising a plurality of antibodies located at discrete locations on a solid surface, wherein the antibodies are a collection of 1000 different antibodies and recognize proteins of a first species. The remainder of the claims under this rejection depend from claim 70. The Examiner concedes on page 14, last paragraph, of the instant office action, that Shalon et al in view of Schuh et al differ from the instant invention in not teaching the utility of a plurality/collection of 1000 different antibodies. Accordingly, Applicants respectfully request that the rejection under 35 USC 102 be withdrawn.

Claim Rejections under 35 USC § 103(a)

Regarding obviousness, the U.S. Supreme Court recently clarified the legal standard by citing text from an earlier opinion: "Under § 103, scope and content of the prior art are to be determined; differences between the prior art and the claims at issue are to be ascertained; and the level of ordinary skill in the pertinent art resolved. Against this background the obviousness or nonobviousness of the subject matter is determined. Such secondary considerations as commercial success, long felt but unsolved needs, failure of others, etc., might be utilized to give light to the circumstances surrounding the origin of the subject matter sought to be patented." KSR Intern. Co. v. Teleflex Inc., U.S. 2007 (2007 WL 1237837 (U.S.), at 6, citing Graham v. John Deere Co. of Kansas City, 86 S.Ct. 684. Furthermore, the Supreme Court clarified that a teaching away may be an indication of non-obviousness. K.S.R v. Teleflex at 18 citing United States v. Adams, 383 U.S. 39, 40 (1966)). Finally, the Supreme Court clarified that unexpected results support a conclusion of non-obviousness. Id.

Regarding a motivation to combine prior art references, the Supreme Court stated that an Examiner's analysis must be made explicit. Id. at 13. Furthermore, the Supreme Court noted that it can be important to identify a reason to combine elements from different references. Id. The Supreme Court warned that "A factfinder should be aware, of course, of the distortion caused by hindsight bias and must be cautious of arguments reliant upon ex post reasoning." Id. at 16, citing Graham, 393 U.S., at 36.

Claims 37, 55, 56, 58, 59, 63, and 64 are rejected under 35 U.S.C. §103(a) as being unpatentable over Shalon et al. (WO 95/35505) in view of Schuh et al.. In order to expedite the issuance of the present case claims 37, 55, 56, 58, 59, 63, and 64 are canceled. Applicants expressly reserve the right to prosecute these claims, or claims based on the same subject

matter, in other applications, such as continuation applications. The cancelation of the claims renders the rejection moot.

Claims 39-40 are rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Shalon et al. in view of Schuh et al. as applied to above, and further in view of Raggs and Whitlow. In order to expedite the issuance of the present case claims 39-40 are canceled herein which renders the rejection of these claims moot.

Claim 65 is rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Shalon et al. in view of Schuh et al. as applied to above, and further in view of Kohler et al. In order to expedite the issuance of the present case claim 65 is canceled herein which renders the rejection of the claim moot.

Claim 79 is rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Shalon et al. (WO 95/35505) in view of Schuh et al. as applied to above, and further in view of Dolores J Cahilll. The dependent claim 79 is incorporated into the independent claim 70 and hence is canceled, which renders the rejection of this claim moot. It is noteworthy that the element of dependent claim 79 is incorporated into independent claim 70. The Office Action asserts that support for claim 79 is not found in the priority document filed February 4, 1998, and assigns a priority date of May 17, 2006 to this claim. As discussed in the 112, first paragraph section above, the specification as filed, provides support for microarrays that include a collection of 1000 different antibodies and recognize proteins of a first species. In fact, the provisional application filed February 4, 1998, which is the priority document for the pending application, provides adequate support for an array that includes a collection of 1000 different antibodies. For example, the provisional priority application filed February 4, 1998 provides support for this subject matter on page 23 lines 23-31 combined with page 2, lines 30 to page 3 line 1, for example.

The Office Action, in the section 112, first paragraph rejection (page 3, last paragraph), asserts that the present application does not support that the elements of a microarray of the invention can include different antibodies. However, as indicated in the section 112, first paragraph response above, and page 23, lines 23-31, for example, the priority document and pending specification disclose that elements of the microarray can be different antibodies. Accordingly, claim 70 as amended to include the element of former claim 79 is supported by the February 4, 1998 priority application. Accordingly, the Cahill reference, which published in 2001, is not prior art to currently pending claim 70, which includes the element of previously pending claim 79.

Claims 31-33, 36, 51-52, 54, 60-61, 74-75, and 81-83 have been rejected under 35 U.S.C. §103(a) as allegedly unpatentable over Shalon et al. in view of Schuh et al. and further in view of Foster et al. The examiner alleges that Shalon et al. disclose antibodies immobilized on microarrays while Schuh et al. allegedly teach the utility of wherein the antigen specificity is unknown with labeled cell lysate, and Foster et al. allegedly teach a kit for assay reagents. Applicants respectfully traverse this rejection.

Claim 31 is directed to a kit comprising a microarray comprising a plurality of antibodies, located at discrete locations on a solid surface wherein the antibodies are arranged in a spatially addressable ordered matrix, and a first reagent, for labeling a cell lysate with a first fluorescent dye, and a second reagent for labeling a cell lysate with a second fluorescent dye. The dependent claims specify particulars of the kit, reagent and array. The combination of cited references does not disclose a first reagent, for labeling a cell lysate with a first fluorescent dye. Furthermore, the combination of cited references does not teach a second reagent for labeling a cell lysate with a second fluorescent dye. In fact, the reference relied on in the Office Action for teaching Schuh et al disclose that in order to check the efficiency of the binding and the detachment of the biotinilated antigens all six wells per sample, including the non-eluted ones, were extensively washed and developed with peroxidase (HRP)-labeled avidin" (see on page 61, right column, 3rd paragraph) Schuh et al further state that microtiter plates were coated with capture antibodies for the reference antibodies Leu1 and Leu9 could not directly be bound to the plates because of the presence of stabilizing proteins and that for, coating, each well was incubated with 50 ul PBS containg 10 ug/ml purified antibody (and at page 61, left column paragraph 3).

The teachings of Shalon et al., Schuh et al. and Foster et al. do not disclose all elements of claim 31 as amended, and its dependent claims 32-33, 36, 51-52, 54, 60-61, 74-75, and 81-83 and hence this rejection is overcome. Accordingly, Applicants respectfully request that the rejection be withdrawn.

Claims 34 and 35 have been rejected under 35 U.S.C. §103(a) as allegedly unpatentable over Shalon et al., in view of Schuh et al., further in view of Foster et al., and further in view of Ragg and Whitlow. Applicants respectfully traverse this rejection.

The Examiner concedes that Shalon et al., in view of Schuh et al., further in view of Foster et al., do not teach antibody fragments and provides the additional art of Ragg and

Whitlow in support of the rejection. As claims 34 and 35 depend from claim 31. As discussed above the combination of Shalon et al., in view of Schuh et al., further in view of Foster et al., does not disclose a first reagent, for labeling a cell lysate with a first fluorescent dye. Furthermore, the combination of cited references does not teach a second reagent for labeling a cell lysate with a second fluorescent dye. Adding Ragg and Whitlow to this combination does not provide the missing teachings, and accordingly do not render the claims obvious. Applicants therefore respectfully request that the rejection of claims 34 and 35 under 35 U.S.C. §103(a) be removed.

Claim 62 has been rejected under 35 U.S.C. §103(a) as allegedly unpatentable over Shalon et al., in view of Schuh et al., further in view of Foster et al., and further in view of Kohler et al. Applicants respectfully traverse this rejection.

As claim 62 depends from claim 31. As discussed above the combination of Shalon et al., in view of Schuh et al., further in view of Foster et al., does not disclose a first reagent, for labeling a cell lysate with a first fluorescent dye. Furthermore, the combination of cited references does not teach a second reagent for labeling a cell lysate with a second fluorescent dye. Adding Kohler et al. to this combination does not overcome its deficiency since Kohler et al. does not provide the missing teachings. Applicants therefore respectfully request that the rejection of claim 62 under 35 U.S.C. §103(a) be removed.

Claim 76 has been rejected under 35 U.S.C. §103(a) as allegedly unpatentable over Shalon et al., in view of Schuh et al., further in view of Foster et al., and further in view of Dolores J. Cahill. Applicants respectfully traverse this rejection.

Claim 76 depends from claim 31. As discussed above the combination of Shalon et al., in view of Schuh et al., further in view of Foster et al., does not disclose a first reagent, for labeling a cell lysate with a first fluorescent dye. Furthermore, this combination of cited references does not teach a second reagent for labeling a cell lysate with a second fluorescent dye. Cahill does not provide the missing teaching. Therefore, adding Cahill to the combination of cited references does not render the claim obvious. Furthermore, as discussed in detail above, Applicants further assert that Cahill, published in 2001, is not available as a reference, as claim 76 is supported by the application as filed. Applicants therefore respectfully request that the rejection of claim 76 under 35 U.S.C. §103(a) be removed.

Claims 66, 67, 68, and 69 have been rejected under 35 U.S.C. §103(a) as allegedly

unpatentable over Shalon et al., in view of Schuh et al., further in view of Brott et al.. Applicants respectfully traverse this rejection.

The dependent claims 67 and 68 were incorporated into independent claim 31 in part and hence are canceled, which renderers the rejection of these claims moot.

Claims 66 and 69 depend from claim 31. It is noteworthy that the Office Action relies on Brott for the alleged teaching of analyzing cell lysis antigens. Brott et al. is directed to examination of molecular interactions between GAP and the two Src kinases by forming immunoprecipitates of Src or GAP prepared from cell lysates, wherein the proteins from the immunoprecipitates are resolved by gel electrophoresis and analyzed by an immunoblot procedure with antibodies to GAP or Src used as probes. Thus, Brott et al. teach a method wherein immune complexes are formed in solution by contacting anti-Src antibodies with a lysate and purified on Protein A-Sepharose; then the immune complexes are analyzed by immunoblot analysis with an anti-GAP antibody (see "Cell Lysis and Protein Analysis" section beginning on page 755). Brott et al. does not disclose a first reagent, for labeling a cell lysate with a first fluorescent dye. Furthermore, Brott et al. does not teach a second reagent for labeling a cell lysate with a second fluorescent dye. Accordintly, Brott et al., does not provide the missing disclosure of the combination of the teachings of Shalon et al., in view of Schuh et al. Accordintly, Applicants assert that claims 66 and 69 are nonobvious under 35 U.S.C. §103(a) over the cited art, and Applicants respectfully request that the rejection be withdrawn.

Conclusion

In view of the amendments and the above remarks, it is submitted that the claims are in condition for allowance, and a notice to that effect respectfully is requested. The Examiner is invited to contact Applicants' undersigned representative if there are any questions relating to this application.

Respectfully submitted,

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